BRUHAT BANGALORE MAHANAGARA PALIKE

Yelahanka Zone, Electrical Division

Name of Work:- Detailed Estimate for Providing Energy Efficient street lights, Real time Street Light Control switches, Control Wires, poles, ABC cable and other accessories in Ward No 03 & 02.

Est Cost Rs. **50000000.00**

Description Of Work		Unit	No	L,m	B,m	D,m	Qty	Rate	Amount
Earth work excavation by manual means for drains,canals, waste weir, draft, approach channels, key trenches, foundation of bridges and such simillar works in all kinds of soils , as per drawing and technical specifications, including setting out, shoring, strutting, barricading, caution lights, removal of stumps and other deleterious matter, excavated surface leveled and sides neatly dressed disposing off the excavated stuff or sorting & stacking the selected stuff for reuse in a radius of 50 m and lift upto 1.5 m including cost of labour, tools & other appurtenaces required to complete the work.Loading and Unloading of Stone Boulder/Stone aggregates/ Sand/Kankar/Moorum. (Tipper 5.5 m3) (V-I.No 1.4,Page No-5 PWD SR 2021-22)									
Basic rate	186.00	Cum	31	1.00	0.70	1.65	35.81		
			111	0.70	0.70	1.65	89.74		
Add 10% A.W	18.6		76	0.50	0.50	1.30	24.70		
Total	**204.60**				Total Qnty		150.25	204.60	30740.84
Providing and laying in position plain cement concrete for levelling course for all works in foundation. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed, laid in layers not exceeding 150 mm thickness, well compacted using plate vibrators, including all lead & lifts, cost of all materials of quality, labour, Usage charges of machineries, curing, and all the other appurtenances required to complete the work as per technical specifications. (The cost of steel reinforcement & formwork shall be paid separately) Mix 1:3:6 (M10) Using 40 mm nominal size graded crushed coarse aggregates (V-1, P.No-15, I No-2.1.3 of PWD SR 2021-22)									
Basic rate	5554.00	Cum							
Add 10% A.W	555.4								
Total	6109.40								
			31	1.00	0.70	0.10	2.17		
			111	0.70	0.70	0.10	5.44		
			76	0.50	0.50	0.10	1.90		
					Total Qnty		9.51	6109.40	58094.28
Supplying, Fitting and Placing un-coated TMT bar Reinforcement in sub-structure complete as per Drawing and Technical Specifications.(V-III, I.No 13.1 Page No 99, PWD SR 2021-22)									
Basic rate	92170.00	Ton							
Add 10% A.W	9217								
Total	**101387.00**								
12mm dia			31	10.00	3.50	0.89	965.65		
12mm dia			111	7.00	2.80	0.89	1936.28		
12mm dia			76	4.00	1.50	0.89	405.84		
10mm dia 6 Inches appaart 1+0.7+1+0.7+Lap x0.7=3.5 mtrs			31	19.00	3.50	0.61	1257.52		

	Description Of Work		Unit	No	L,m	B,m	D,m	Qty	Rate	Amount
	10mm dia 6 inches appaart 0.5+0.5+0.5+0.5+ Lap x0.5=2 mtrs			111	19.00	2.10	0.61	2701.63		
	10mm dia 6 inches appaart 0.3+0.3+0.3+0.3+ Lap x0.7=1.35mtrs say			76	15.00	1.35	0.61	938.79		
								8205.71		
						Total Qty		8.21	101387.00	831952.12
	Providing and laying in position Reinforced cement concrete for all Sub structures of building, Irrigation works, Sub structure works of bridges, Drain works & other parallel works from 0.50m to 3.50 m height. The granite/trap/basalt crushed graded coarse aggregates and fine aggregates as per relevant IS Codes machine mixed with super plasticisers, laid in layers, well compacted using needle vibrators, providing weep holes wherever necesary, including all lead & lifts, cost of all materials of quality, confirming to the requirements of relevant IS codes, labour, Usage charges of machinery, curing and all other appurtenances required to complete the work as per technical specifications. (The cost of steel reinforcement & formwork to be paid separately) M20 Design Mix Using 20 mm nominal size graded crushed coarse aggregates (V-1 P No 17 I No 2.4.2 of PWD SR 2021-22)									
	Basic rate	5968.00	Cum							
	Shuttering 5%	298.40								
	Sub Total	6266.40								
	Add 10% A.W	626.64								
	Total	6893.04								
				31	1.00	0.70	1.95	42.32		
				111	0.50	0.50	1.50	41.63		
				76	0.30	0.30	1.20	8.21		
						Total Qty		92.15	6893.04	635179.85
	Providing and Fixing Pre cast covering Slab 100mm thick made out of CC, jelly 20mm Down size with steel reinforcement including form work,curing,including cost of all materials, labour,hire charges of machinery, loading, unloading, lead and lift,transportation etc ,complete.As per Engineer incharge.									
	Basic rate	2072.00	Sqm							
				180	0.60	0.90		97.20		
				55	0.60	0.75		24.75		
				45	0.60	1.20		32.40		
						Total Qty		154.35	2072.00	319813.20
	Providing and fixing pre cast solid cement concrete kerb stones made out of CC M20 with top and bottom width 114 and 165 mm respectively, 400mm high and 450mm in									
	Basic rate	507.00	Nos							
				1	260.00			260.00		
				1	136.00			136.00		
				1	257.00			257.00		
				1	155.00			155.00		
				1	104.00			104.00		
								912.00		

	Description Of Work	Unit	No	L,m	B,m	D,m	Qty	Rate	Amount
					Total Qty		2027.00	507.00	1027689.00
	Supply of LED Streetlight luminaire with pressure die cast aluminium housing body for optimal thermal dissipation. Lamp compartment comprising of anti glare clear diffuser with injection moulded polycarbonate material, delivering superior light output. Rated life Burning Hrs 50000 hr @ Lumen Maintenance of 70%, maximum light intensity should be between 60 degrees to 70 degrees. CCT > 5500K, IP 66 optical and electrical compartment & impact resistance of complete luminaire > IK08. Power Factor >0.9 with mains, Surge Protection- Min 5KV along with Over voltage/ Overload, short circuit/ miss-wiring protection. Compatible for pole mouting with outer dia of 40mm to 50mm. Universal Voltage driver to operate wide voltage range from 100V to 270V 50/60Hz application. Compliance to IS 10322/IEC 60598, LM 79 & LM 80 Adherence with RoHS. UL approved MCPCB. Top access street light with single screw to ensure ease of maintenance at the sight site location with minimized minimal tools. LED Light fixture with W System Power consumption. LED Efficiency>130lm/w, nominal CRI >75. Luminaire manufacturer should								
		Nos	1	960.00			960.00	7770.00	7459200.00
	Supply of LED Streetlight luminaire with pressure die cast aluminium housing body for optimal thermal dissipation. Lamp compartment comprising of anti glare clear diffuser with injection moulded polycarbonate material, delivering superior light output. Rated life Burning Hrs 50000 hr @ Lumen Maintenance of 70%, maximum light intensity should be between 60 degrees to 70 degrees. CCT > 5500K, IP 66 optical and electrical compartment & impact resistance of complete luminaire > IK08. Power Factor >0.9 with mains, Surge Protection- Min 5KV along with Over voltage/ Overload, short circuit/ miss-wiring protection. Compatible for pole mouting with outer dia of 40mm to 50mm. Universal Voltage driver to operate wide voltage range from 100V to 270V 50/60Hz application. Compliance to IS 10322/IEC 60598, LM 79 & LM 80 Adherence with RoHS. UL approved MCPCB. Top access street light with single screw to ensure ease of maintenance at the sight site location with minimized minimal tools. LED Light fixture with W System Power consumption. LED Efficiency>130lm/w, nominal CRI >75. Luminaire manufacturer should have in-house facility accredited by NABL/CPRI & any Govemment certified agency & Design & Development facility certified by ISO 9001:2008 . Housing with supplier word mark /name shall be Engraved / Embossing on the die cast housing/ Body part. Warranty of 2 Years against any manufacturing defect working under standard electrical conditions as mentioned above should be given by LED manufacturer & Cree/Nichia/ Lumileds/Osram make LED Source.LED Streetlight 120 Watts								
		Nos	1	80.00			80.00	9998.00	799840.00
	Supply of LED Streetlight luminaire with pressure die cast aluminium housing body for optimal thermal dissipation. Lamp compartment comprising of anti glare clear diffuser with injection moulded polycarbonate material, delivering superior light output. Rated life Burning Hrs 50000 hr @ Lumen Maintenance of 70%, maximum light intensity should be between 60 degrees to 70 degrees. CCT > 5500K, IP 66 optical and electrical compartment & impact resistance of complete luminaire > IK08. Power Factor >0.9 with mains, Surge Protection- Min 5KV along with Over voltage/ Overload, short circuit/ miss-wiring protection. Compatible for pole mouting with outer dia of 40mm to 50mm. Universal Voltage driver to operate wide voltage range from 100V to 270V 50/60Hz application. Compliance to IS 10322/IEC 60598, LM 79 & LM 80 Adherence with RoHS. UL approved MCPCB. Top access street light with single screw to ensure ease of maintenance at the sight site location with minimized minimal tools. LED Light fixture with W System Power consumption. LED Efficiency>130lm/w, nominal CRI >75. Luminaire manufacturer should have in-house facility accredited by NABL/CPRI & any Government certified agency & Design & Development facility certified by ISO 9001:2008 . Housing with supplier word mark /name shall be Engraved / Embossing on the die cast housing/ Body part. Warranty of 2 Years against any manufacturing defect working under standard electrical conditions as mentioned above should be given by LED manufacturer & Cree/Nichia/ Lumileds/Osram make LED Source.LED Streetlight 150 Watts								

Description Of Work	Unit	No	L,m	B,m	D,m	Qty	Rate	Amount
		1	190.00			190.00	13432.00	2552080.00
Supply of LED floodlight luminaire with pressure die cast aluminium housing body for optimal thermal dissipation. Lamp compartment comprising of anti glare clear diffuser with injection moulded polycarbonate/clear glass material, delivering superior light output. Rated life Burning Hrs 50000 hr @ Lumen Maintenance of 70%, CCT > 5500K, IP 66 optical and electrical compartment & impact resistance of complete luminaire > IK08. Power Factor >0.9 with mains, Surge Protection- Min 5KV along with Over voltage/ Overload, short circuit/ miss-wiring protection. Compatible for pole mouting with outer dia of 40mm to 50mm.Universal Voltage driver to operate wide voltage range from 100V to 270V 50/60Hz application. Compliance to IS 10322/ IEC 60598, LM 79 & LM 80 Adherence with RoHS. UL approved MCPCB. Top access street light with single screw to ensure ease of maintenance at the sight site location with minimized minimal tools. LED Light fixdure with W System Power consumption. LED Efficiency>130lm/w, nominal CRI >75. Luminaire manufacturer should have in- house facility accredited by NABL/CPRI & any Government certified agency & Design & Development facility certified by ISO 9001:2008 . Housing with supplier word mark /name shall be Engraved / Embossing on the die cast housing/ Body part. Warranty of 2 Years against any manufacturing defect working under standard electrical conditions as mentioned above should be given by LED manufacturer & Cree/Nichia/ Lumileds/Osram make LED Source.LED Floodlight 240W								
		1	130.00			130.00	19996.00	2599480.00
Supply of LED pole mounting type post top lantern with pressure die cast aluminium housing body for optimal thermal dissipation. Lamp compartment comprising of anti glare clear diffuser with Injection moulded polycarbonate/ clear glass material, delivering superior light output.Rated life Burning Hrs 50000 hr @ Lumen Maintenance of 70%, CCT > 5500K, IP 66 optical and electrical compartment & impact resistance of complete luminaire > IK08. Power Factor >0.9 with mains, Surge Protection- Min 5KV along with Over voltage/Overload, short circuit/ miss-wiring protection. Compatible for pole mounting with outer dia of 40mm to 50mm. Universal Voltage driver to operate wide voltage range from 100V to 270V 50/60Hz application. Compliance to IS 10322/IEC 60598, LM 79 & LM 80 Adherence with RoHS. UL approved MCPCB . LED Efficiency>130lm/w, nominal CRI >75. Luminaire manufacturer should have in- house facility accredited by NABL/CPRI & any Government certified agency & Design & Development facility certified by ISO 9001:2008 . Housing with supplier word mark /name shall be Engraved / Embossing on the die cast housing/ Body part. Warranty of 2 Years against any manufacturing defect working under standard electrical conditions as mentioned above should be given by LED manufacturer & Cree/Nichia/ Lumileds/Osram make LED Source.LED Post Top Lantern with 35 watts								
		1	50.00			50.00	7912.00	395600.00
Fabricating, supplying and erection of ...Mtrs long hot dip **Galvanized Octagonal** pole with BSEN 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with door opening arrangements, including suitable boards, Bakelite sheet and MCBs as per IS specifications suitable to withstand the wind speed of 47 m/sec for .....Mtrs pole in single section and single joint welded as per IS 9595/IS 10178AWS having dimensions bottom .....mm, top....mm with 3mm thick, suitable base plate and 4Nos of long J bolts along with template and the pole shall be hot dip galvanized in single dipping with not less than 65micron as per ASTM-A123 and 153 etc., (excluding foundation) as per drawing appended.7 meters - Top 70mm and bottom 130mm dia								
	Nos	1	35.00			35.00	12036.00	421260.00
Supplying, and fixing of Hot dip Galvanized M.S.Bracket suitable for out door luminaries and mounted on Octagonal pole using necessary bolts, nuts etc., complete.Single Arm Bracket with 1500mm Standard 40/50MM dia								

SR Page &	Description Of Work	Unit	No	L,m	B,m	D,m	Qty	Rate	Amount
		Nos	1	10.00			10.00	1800.00	18000.00
94.7.5	Supplying, and fixing of Hot dip Galvanized M.S.Bracket suitable for out door luminaries and mounted on Octagonal pole using necessary bolts, nuts etc., complete.Double Arm Bracket with 1500mm Standard 40/50MM dia								
		Nos	1	25.00			25.00	2624.00	65600.00
4913.1.2	Supplying and Fixing of.....mm dia class A GI pipe bracket upto 2 ms long bent at suitable angle and fixing to this bracket 1x40/2x40 W fluorescent tube street light fitting of all capacities to GI or GI or rail or RCC pole / wall using suitable clA, bolts, and nuts and wiring using suitable capacity wires.Using 32mm dia G.I.Pipe								
		Each	1	1040.00			1040.00	902.00	938080.00
94.4.2	Fabricating, supplying and erection of ...Mtrs long hot dip **Galvanized Conical pole** with BSEN 10025 grade S355JO steel plate for shaft, IS 2062 for base plate with door opening arrangements, including suitable boards, Bakelite sheet and MCBs as per IS specifications suitable to withstand the wind speed of 47 m/sec for .....Mtrs pole in single section and single joint welded as per IS 9595/IS 10178AWS having dimensions bottom .....mm, top....mm with 3mm thick, suitable base plate and 4Nos of long J bolts along with template and the pole shall be hot dip galvanized in single dipping with not less than 65micron as per ASTM-A123 and 153 etc.,(excluding foundation) as per drawing appended.4 meters - Top 75mm and bottom 115 mm dia								
			1	13.00			13.00	7553.00	98189.00
9/32.05	Supplying of 1.1 kV, XLPE or Heat resistant PVC insulated, PVC exutruted Inner Seath Armoured LTUG Cable as per IS-1554 (Part1) or IS-7098 Part-1, Armouring strip thickness and resistivity as per IS-3975 16 Sqmm, 4 Core, (11 GI Strips - 4 x 0.8 mm)								
		Km	1	4.50			4.50	183442.00	825489.00
9/32.06	Supplying of 1.1 kV, XLPE or Heat resistant PVC insulated, PVC exutruted Inner Seath Armoured LTUG Cable as per IS-1554 (Part1) or IS-7098 Part-1, Armouring strip thickness and resistivity as per IS-3975 25 Sqmm, 3.5 Core, (12 GI Strips - 4 x 0.8 mm)								
		Km	1	1.20			1.20	181452.00	217742.40
9/32.09	Supplying of 1.1 kV, XLPE or Heat resistant PVC insulated, PVC exutruted Inner Seath Armoured LTUG Cable as per IS-1554 (Part1) or IS-7098 Part-1, Armouring strip thickness and resistivity as per IS-3975 35 Sqmm, 3.5 Core, (14 GI Strips - 4 x 0.8 mm)								
		Km	1	0.50			0.50	208670.00	104335.00
9/31.05	Laying of cable in Existing Trench/GI pipe/Stone Ware/RCC Hume pipe using Wooden/Aluminum Rollers as directed by the departmental staff 2.5 to 25 Sqmm								
		Km	1	5.70			5.70	16159.00	92106.30
9/31.06	Laying of cable in Existing Trench/GI pipe/Stone Ware/RCC Hume pipe using Wooden/Aluminum Rollers as directed by the departmental staff 35 to 95 Sqmm								
		Km	1	0.50			0.50	23647.00	11823.50
9/29.02	Earth work excavation for cable trench of 0.4 to 0.6 Mtr. Width and Depth upto 1 Mtr including trial pits, depositing on bank upto a lead of 50 Mtr, Supplying and Displaying necessary Danger Boards and Lighting, Using sight Rails and Sign Boards at every 100 Mtr wherever necessary as directed In Ordinary Soil								
		Cumtrs	1	1000.00			1000.00	260.00	260000.00
9/29.07	Refilling the cable trenches with selected available earth from trench excavation including watering, consolidation in layers of 15 cm. Thickness including depositing of the surplus earth with a lead of 200 Mtr								
		Cumtrs	1	1000.00			1000.00	58.00	58000.00

SR. No. & Page &	Description Of Work	Unit	No	L,m	B,m	D,m	Qty	Rate	Amount
162.5 3	Supplying and drawing Flexible Multicore Cable manufactured with electrolytic grade flexible copper with low conductor confirming to IS:8130-1984 and (Virgin) PVC insulation sheathed suitable for working voltage upto 1100Volts as per IS-694:2010 4C X 1.5Sq.mm								
		Mtrs	1	1000.00			1000.00	88.00	88000.00
1949.0 4	GI Pipe B - Class as per IS-1239 GI Pipe - 40 mm Dia								
		Mtrs	1	50.00			50.00	295.00	14750.00
1955. 01	Supplying of Epoxy Terminating Kit (Pothead) suitable for 1.1 kV, LTUG Cable Up to 4C x 50 Sqmm								
		Nos	1	10.00			10.00	316.00	3160.00
1963. 01	Supplying Heavy Duty Copper Terminal Long Barrel.25 Sqmm Copper Terminal, Apprx Wt: 11 Gm								
		Nos	1	1500.00			1500.00	29.00	43500.00
1754 04	Rod type of earthing using 40 mm Dia, 3 Mtr long MS rod as ground rod, in earth pit of 300 mm width and 3300 mm depth and using 50x6 mm flat welded to ground rod as terminal & connected to equipment ground terminal using PVC Al wire as specified								
		Nos	1	10.00			10.00	2253.00	22530.00
155.4 1.1	Supplying and fixing angle iron frame work fabricated out of M.S. angle iron.. and M.S. flat ... with bolts, washers etc.,and painted with 2 coats of red oxide and then two coats of approved paint.40x40x6mm								
		Mtrs	10	8.00			80.00	275.00	22000.00
155.4 2.2	Fabricating supplying and mounting MS box made out SWG suitable for floor / wall mounting, fully weather proof with provision for better heat dissipation, provided with hinged front cover, equipped with tamper proof locking arrangements, with suitable size clamps with necessary cable entry pipe with gland and box should be finished with 7tanks treatment with powder coated paint and finally finished with approved colour etc., complete16SWG								
		Sqmm	10	35000.00			350000.00	0.38	133000.00
155.4 17	Supplying and fixing Moulded Case Circuit Breaker (MCCB) over the existing wood/panel board using necessary screws, bolts, nuts, necessary phase separators, handle and wiring complete. Protection of Overload and Short circuit in Thermal Magnetic Release. Micro processor release shall have Earth Fault as per IS-13947. (Icu=100% Ics). In 4P MCCB, all Poles should have protection for Short-Cicrcuit/Over Load. For Microprocessor MCCBS Facility for segregating Priority and Non-Priority loads must be available in the MCCB. MCCB shall be provided with double insulation (insulation between front cover and internal power circuits to avoid any accidental contact with live current carrying path with the front cover open). Multi-pole breakers shall be designed to break all the poles simultaneously and they shall have a single mechanism.complete. FOUR Pole 100 A 25 kA								
		Nos	10	1.00			10.00	8265.00	82650.00
4573. 5	Fixing halogen/metal halide / SVL / IL / LED floodlight fitting over existing pole / wall ceiling including clamps, bolts, nuts and wiring using suitable capacity wires.								
			1	1550.00			1550.00	189.00	292950.00
4573. 6	Fixing charges of post top/ Gate/ Garden fitting /LED on the existing CI / GI or any other pipe using required size of reducer, wiring using suitable wires.								
		Nos	1	50.00			50.00	166.00	8300.00

SR No. Page &	Description Of Work	Unit	No	L,m	B,m	D,m	Qty	Rate	Amount
	Supplying & fixing of retrofit type - LED bulb.....W with OPAL acrylic diffuser comprising of LED source with CCT 6500 degree K, CRI> 70%, efficacy >80 lumen per watt,life> 25000 burning hours and Compliance to IS 10322/IEC 60598, LM 79 & LM 80. The LED are driven by HF electronic driver integrated in the system, with PF > 0.95, power loss should < 5% of lamp wattage., short circuit & open circuit protection to be integrated in the circuit, THD less than 20%,Life as per LM 79. The operating input voltage should be between 130 to 275 volts. BIS Approved and Tested by ABL/CPRI accredited laboratory with 2 years Warranty against any manufacturing defect working under standard electrical condition 18W, 6500K								
			1.00	31.00			31.00	436.00	13516.00
	Supplying Spiral Earth Electrode								
		Each	1.00	48.00			48.00	248.00	11904.00
	Dismanting of Steel/I- Beam/Tubular poles (90% of the Pole erection charges.p2/2.01 Rs 688.00x90%=619.2)								
		Each	1.00	50.00			50.00	619.20	30960.00
	Releasing of existing LEd street light(Fixing halogen/metal halide / SVL / IL / LED floodlight fitting over existing pole / wall ceiling including clamps, bolts, nuts and wiring using suitable capacity wires. (Releasing of LED Lights=90% of erction Charges Rs 189x90%=170.10)								
		Each	1.00	190.00			190.00	170.10	32319.00
	Mobile Hydraulic Crane 35 t capacity for releasing and refixing of High Mast								
		Hrs	1.00	150.00			150.00	1748.00	262200.00
	Total Rs								**20882033.49**
AR	Centralized Control & Monitoring Sysem (CCMS) for Streetlights consisting of: Supply and erection of Thyristor based single phase smart streetlight control and monitoring system remotely control and monitorable smart streetlight system by using web or mbile application Remote lighting management based on Master control unit (MCU): handles controlling data handling other communication process. Commiunication units : GSM/GPRS Gate driver unit : for driving the Thyristor switching Thristor: SCR 106 Amps dual Thyristor moduel for switching Embedded firmware: firmware to control, handle, Process the data and communicate it wirelessly and IP 65 weather proof MS Enclosure.								
		Nos	1	10.00			10.00	68780.00	687800.00
AR	Supply and errection of Single phase 63 Amps Thyristor based Streetlight control system consisting of: micro controller based electronic Timer with RTC, 2x16 LCD with back light, 5 Tactile keys, 106 Thyristor module for load switching mouted on extruded aluminium heat sink, Thyristor driver card for switching Thyristor module, 2 numbers of 63 Amps MCB for over load protection and manual switching, 18 SWG CRACA MS sheet enclouser.								
		Nos	1	50.00			50.00	29800.00	1490000.00
AR	Supply of 3 Mtr Powder Coated Mild Steel Pole powering 40W PCB Light and 20w strip. Dimension of pole 3mm thickness with 80x120mm having Body Colour Graffite Grey, Single side arm bend at 45 deg welded to the pole and arm length 845mm . Strip Light is conduted along with the Pole liner with Blue Light Illumnation. Square base Plate sized 250x250 welded at the bottom of the pole with required 4 nos foundation Bolts suitable for cable entry hole of 60mm at the bottom of the Pole. MCB access door cutting of 500mm from the bottom of the pole with 12 inches Height.:Make Emerald Lighting Solutions Model ALTIES or any equalent								
			1	21.00			21.00	29750.00	624750.00
AR	Supply of 3 Mtr Powder Coated Mild Steel Pole with 3mm thickness having top Triangle shape with light 36w and arm light 24w Body Colour Grey/Black . 3mtr pole will have blue colour 20w strip on double side of the pole. Square base Plate sized 250x250 welded at the bottom of the pole with required 4 nos foundation Bolts suitable for cable entry hole of 60mm at the bottom of the Pole. MCB access door cutting of 500mm from the bottom of the pole with 12 inches Height. Make : Emerald Lighting Solutions Model XENON X-VI or any equalent								
		Nos	1	20.00			20.00	43750.00	875000.00

SR No/Page No	Description Of Work	Unit	No	L,m	B,m	D,m	Qty	Rate	Amount
	Supply of 3 Mtr Powder Coated Mild Steel Pole with 3mm thickness having top Triangle shape, Arm will have 600mm length at one side PCB will be palced with 36w light output , Body Colour Grey/Black . 3mtr pole and top triangle fixture will have blue colour 20w strip on double side of the pole. Square base Plate sized 250x250 welded at the bottom of the pole with required 4 nos foundation Bolts suitable for cable entry hole of 60mm at the bottom of the Pole. MCB access door cutting of 500mm from the bottom of the pole with 12 inches Height. Make : Emerald Lighting solutions Model TRIO or any equalent								
		Nos	1	22.00			22.00	45500.00	1001000.00
	Supply of Pressure die Cast body housing , Half Moon shaped landscape Light Dia 450mm,Height 450mm, and mounting dia OD 60mm.LED Light having 60w output and Body colour Grey/Black. Make : Emerald Lighting solutions Model HORSE-SHOE or any equalent								
		Nos	1	100.00			100.00	19500.00	1950000.00
	Fabricating, Supplying and errection of decorative bent type Tuskar Conical Street light pole with hot dip Galvanized with BSEN 10025 grade S 355 JO Steel plate for shaft, IS 2062 for base plate with door opening arrangements, including suitable boards, Bakelite sheet for MCBs as per IS Specifications.suitable to with stand the wind speed. The total height of the pole 9 mtrs. The pole should have 2 nos of pole esthetically bent either side. The dimensions of the pole bottom 178 mm,at 9 mtrs height 70 mm 3mm thick and one number of 3 mtr height and 139.7 mm dia perforated pole having colour changing LED Fixture, inside as suitable to the Drawing and picture. The base plate size of 350mm x 350mm x 18 mm for poles and a common baseplate of 900x320x20 mm and the pole shall be galvanized with not less than 65 micron etc and finally finished with paint as required with two different colour. (With out foundation). As per the enclosed Drawing ,pictures and IS standards compleet set includes templat & 6 nos 24 mm x750mm anchor bolts.								
		Nos	1	31.00			31.00	116625.00	3615375.00
	Fabricating, Supplying and errection of decorative Zig- Zag bent type Street light pole with hot dip Galvanized with BSEN 10025 grade S 355 JO Steel plate for shaft, IS 2062 for base plate with door opening arrangements, including suitable boards, Bakelite sheet for MCBs as per IS Specifications.suitable to with stand the wind speed. The total height of the pole 7 mtrs towards road and 5 Mtrs footpath.between the pole V shaped MS/any decorativ laser cutting jolly work The pole should have 2 nos of pole esthetically bent either side. The dimensions of the pole bottom square pipr of 175x175x4mmx2 Mtrs length and above 2 mtrs a dia of 76.1x3.25mmx5Mtrs and 3 Mtrs, as suitable to the Drawing and picture. The base plate size of 350mm x 350mm x 16 mm the pole shall be galvanized with not less than 65 micron etc and finally finished with PU paint as required with two different colour. (With out foundation). As per the enclosed Drawing ,pictures and IS standards compleet set includes templat 4 nos M20 x750mm anchor bolts.								
		Nos	1	68.00			68.00	89750.00	6103000.00
	Fabricating, Supplying and errection of decorative double arm bent type Swirl Street light pole, with 3 sections MS shaft, IS 2062 for base plate with door opening arrangements, including suitable boards, Bakelite sheet for MCBs as per IS Specifications.suitable to with stand the wind speed. The total height of the pole 9 mtrs. The dimensions of the pole bottom section 3000mm height165 mm dia,3mm,thick, Middle section 3000mm height 2 nos of 60mm dia,2.5mm thick telescop/swaged joint and in the middle easthatical ovel shape middle round MS plate for hording,top section 2 nos 60mm dia.2.5mm thick required lenth to achive total 9 mtrs height & suitabaly bent on either side top width 4000mm as suitable to the Drawing and picture. The base plate size 300mm x 300mm x 12 mm thick and finally finished with paint as required with two different colour. (With out foundation). As per the enclosed Drawing ,pictures and IS standards compleet set includes templat & 4 nos 16 mm x470mm anchor bolts.								
		Nos	1	33.00			33.00	67851.00	2239083.00

SR No Page &	Description Of Work	Unit	No	L,m	B,m	D,m	Qty	Rate	Amount
	Supply, instalation testing and commissioning of LED RGB inground 10 to 12 watt uplighter for landscape,path lighting bush lighting & etc, made out of die-cast anti-corodal aluminium alloy for optimal thermal dissipation and top plate is made out of 316L marien grade ss,the LEDs should be high quality COB chips osram&bridgelux the beam angle of the fitting shall be narow,medium,wide or asymetric as per the requirment.luminaire shall be complete with driver and capabal of operating at line voltage with out any separate power supply from 100 to 270 V AC,50 hz, power factor>0.9shall be IP 66 and ik06 rated.life time should be at least L70:50000 burning hours at 50.c. Luminaire shall be confirming to BIS and shall be complete with all necessry accessories required for proper working of fixture including weather proof connection cables, water proof connector etc as required								
		Nos	1	300.00			300.00	9325.00	2797500.00
	Supply, instalation testing and commissioning of LED RGB inground 7 to 9 watt uplighter for landscape,path lighting bush lighting & etc, made out of die-cast anti-corodal aluminium alloy for optimal thermal dissipation the LEDs should be high quality COB chips Osram&bridgelux the beam angle of the fitting shall be narow,medium,wide or asymetric as per the requirment.luminaire shall be complete with driver and capabal of operating at line voltage with out any separate power supply from 100 to 270 V AC,50 hz, power factor>0.9 shall be IP 66 and ik06 rated.life time should be at least L70:50000 burning hours at 50c. Luminaire shall be confirming to BIS and shall be complete with all necessry accessories required for proper working of fixture including weather proof connection cables, water proof connector etc as required.								
		Nos	1	400.00			400.00	5925.00	2370000.00
	Supplying and laying of copper 1.1 KV LT UG cable XLPE or Heat resistant PVC insulated, PVC extruded Inner sheath armoured UG LT cable Armouring strip thickness in average +5% 4 core 6 sqmm copper cable.								
		Mtrs	1	1500.00			1500.00	341.55	512325.00
	Supply, installation, testing and commissioning of out door garden speaker fitted with wide response and water resistant polypropylene speaker components and strong aluminium alloy housing permits various outdoor application omni directional speakers IP 55 norms 40W/100 volt with taping of 40/20/10/5watts 88 db 160 Hz-16KHz Dimensions DIA 185mm x H765 mm frequency response Preferable.including Speaker mounting hardware with mounting templets to be grouted in to the concrete with welded bolts as required to fix the garden speaker Make : Ahuja/Eq								
		Nos	1	13.00			13.00	23868.00	310284.00
	Supply, installation, testing and commissioning of 480 to 600 watt amplifier with large air cooled/forced air cooled heat sink with 3 x line level inputs and 1 x 100 volt input to loop another amp output line ground lift switch to reduce the ground loop hum with 100v/70 volt/ impedence out put Frequency resposne of 50 htz to 15 khtz SN ratio 60 db Power consumption 1200VA AC. Make : Audiotrak/Ahuja								
		Nos	1	1.00			1.00	87696.00	87696.00
	Supply, installation, testing and commissioning of FM radio with Frequency range of 70 Mhz to 108 Mhz PLL based auto tuning sysetm with aux out with out door antenna consumption preferable. Make : Custom								
		Nos	1	1.00			1.00	2592.00	2592.00
	Supply, installation, testing and commissioning of water proof audio rack made of Powder coated MS lockable with bottem ventilated with removable mesh type cover with power strip and for out door use preferable. Make : Custom								
		Nos	1	1.00			1.00	77112.00	77112.00
	Supply, installation, testing and commissioning of hand held wired mic with wind shield with single channel mic preamp Frequency response of 55 htz to 16000 htz with 2,5 mvolt out put. Make : Ahuja/Eq								
		Nos	1	1.00			1.00	10152.00	10152.00

Sl No/Page &	Description Of Work	Unit	No	L,m	B,m	D,m	Qty	Rate	Amount
	Supplying and laying of copper 1.1 KV LT UG cable XLPE or Heat resistant PVC insulated, PVC extruded Inner sheath armoured UG LT cable Armouring strip thickness in average +5% 4 core 6 sqmm copper cable.								
		Mtrs	1	300.00			300.00	341.55	102465.00
	Fabricating, Supplying and errection of Garden speaker protective enclsoure of size H 91.55mmxL30.50mmxB30.50mm fabricated out of MS 1"1/8 L angle and 1" weld mesh with bolts, washers , nuts & etc; and painted with 2 coats of red oxide and then two coats of green/any approved enaml paint.								
		Nos	1	114.00			114.00	5750.00	655500.00
	Laying of UG Cables by trenchless technology by adopting horizontal boring & Drawing of cable including preparation at site With HDPE Pipe i) Normal soil 5/6" bore size								
		Mtrs	1	122.00			122.00	848.00	103456.00
	Total Construction Cost								**46497123.49**
	Add GST 12%								2505844.02
	Miscellaneous & BESCOM Charges								1032.49
	Add 2% for DPR and PMC Charges								996000.00
	Grand Total Rs								**50000000.00**

CERTIFICATE :-

1. The place was inspected and the work is esse
2. The provision made in the estimate are adequate and necessary and the work comes in the BBMP limit and is legitimate Charges on the BBMP funds.
3. The estimate is based on KPWD (Ele) S.R.2022-23 , Approved Rates, BESCOM SR 2022-23

Engineer (Elec)

Asst. Exe Engineer (Elec)
Sub-Division No.

EXECUTIVE ENGINEER (ELEC)
YELAHANKA DIVISION
BRUHAT BANGALORE MAHANAGARA PALIKE

The estimate is scrutinized and found correct

Technical Sanction
Accorded For Rs. 500.00 Lakhs
Head of A/C P-3788
CER NO :.....42..... Dt:..07/07/2022

Administrative Approval
Accorded For Rs. 500.00 Lakhs
Head of A/C P-3788
CER NO :.....15..... Dt:15/10/22

AEE (Project)